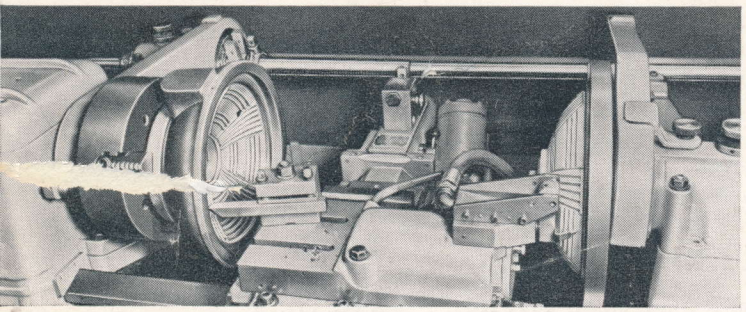
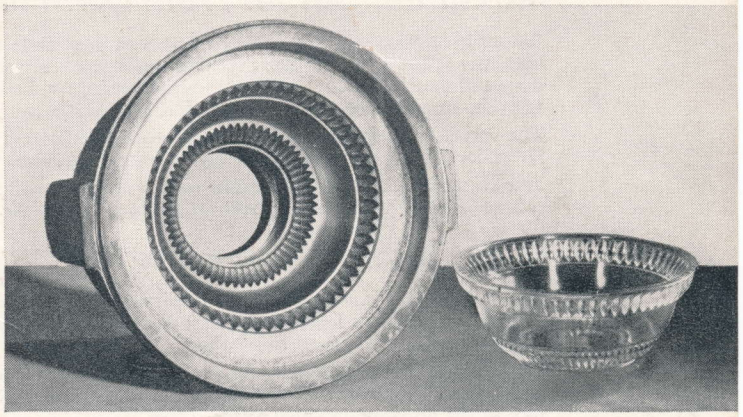
mold-making model

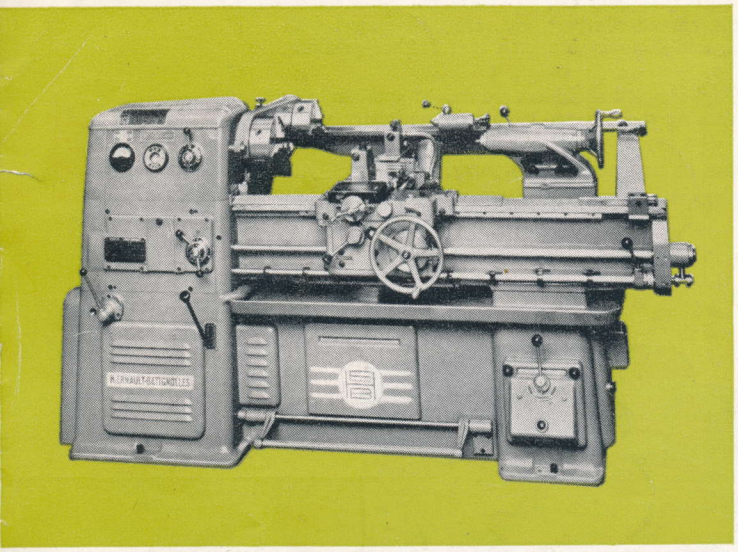
machine GT 420



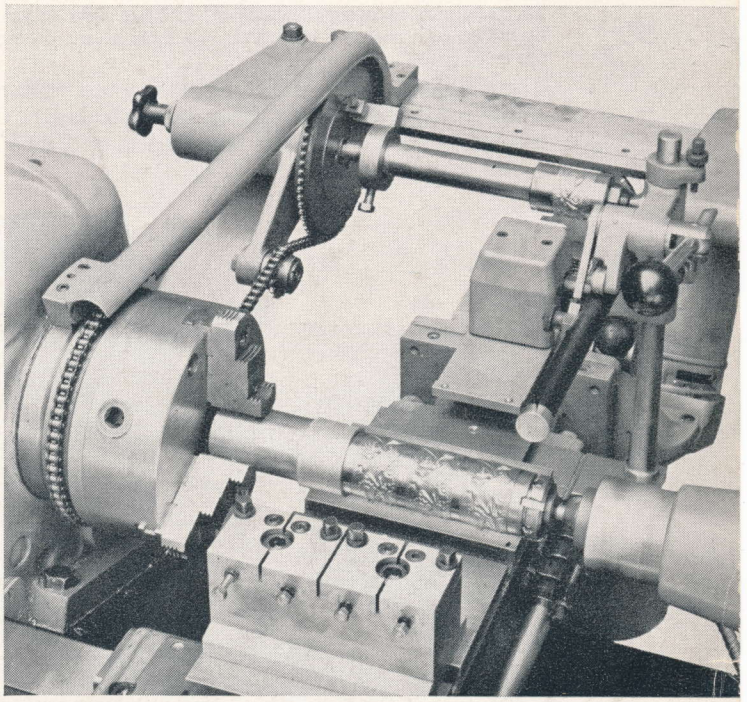
Set-up for machining mould for shallow glass dish



Mould and sample of glass dish. Machining time— 3½ hours



GT420 copying lathe for mould-making, fitted with chuck for holding rotating pattern



GT420 set-up for copying of engraved rings as shown below and below left

the 2 fundamental principles

1. Maximum Output From Carbide Tools

Since the introduction of carbide tools their utilization has been limited by the machine tools available. For maximum efficiency it is essential to achieve complete absence of vibration even at highest cutting speeds. At every stage in the design of the H.E.B. Copying Lathes vibration has been eliminated. The bed, a very heavy cross-braced section, together with the massive one-piece base, forms a foundation so rigid that it need not even be bolted down.

The vertically positioned cutting tool not only removes a source of vibration, but also results in longer tool life and far easier setting, dispensing entirely with any need for packing or shims.

Spindle speeds of up to 3,600 r.p.m. enable work as small as ¾" diameter to be machined at the correct speed, whereas a lathe with a top speed of 1,500 r.p.m. would only give the correct speed on diameters over 2".

2. Copy-Turning To Reduce Set-up and Machining Time

H.E.B. have developed a copying device more accurate and more sensitive than on any other lathe. This is due to a number of factors, a major one being that it was designed as an integral part of the machine, and is not a separate attachment added to an existing lathe.

The number of members between hydraulic tracer and cutting tool have been kept to a minimum and all oil passages are short and rigid. With the patented H.E.B. copying system there is no delay whatever in the response of the cutting tool to the minutest impulse of the tracer.

Components with numerous different diameters, tapers, chamfers, radii, curved contours, etc., are copy-turned with extreme accuracy with a single tool in one continuous cut. The finish and accuracy are such that further grinding operations frequently become unnecessary.

For maximum accuracy the tool-post slides at right angles to the bed. Right-angled shoulders are copied automatically by means of a patented electrically operated clutch on the feed shaft causing the carriage to remain stationary while the cutting tool faces.

The simplicity of the H.E.B. copying system enables the machine to be operated by unskilled labor. Due to extremely short setting times the use of H.E.B. Copying Lathes is economical not only in turning big batches of components but also for lots of 5 or 10.